

Inriver Abundance of Chinook Salmon in the Kuskokwim River, 2003

Abstract: A two-sample mark-recapture experiment was conducted for Chinook salmon *Oncorhynchus tshawytscha* in the Kuskokwim River drainage using radiotelemetry techniques from June-August, 2003. An attempt was made to distribute radio tags over the entire run such that the radio-tagged fish would be representative of the entire run with respect to size, run-timing, and capture location. Fish were sampled using drift gillnets and fish wheels at various locations upstream from Kalskag and downstream of the Aniak River. Radio-tagged Chinook salmon constituted the first event. For the second event, fish were counted at four weirs on tributaries of the Kuskokwim River. Radio-tagged Chinook salmon that swam past the weirs and were recorded by stationary tracking stations constituted the recaptured portion. Three hundred sixty-five fish were marked and migrated above the Aniak River, 13,646 salmon ≥ 450 mm MEF were estimated to pass through the four weirs, and 55 radio-tagged fish passed through the weirs when they were operational. The estimate of abundance for Chinook salmon ≥ 450 mm for the Kuskokwim River upstream of the Aniak River was 103,161 fish (SE = 18,720). The majority of radio-tagged Chinook salmon entered the Holitna and Aniak rivers. On average, 50% of the entire Chinook salmon run showed up at the tagging site by 26 June. Run-timing was similar for the various Kuskokwim River Chinook salmon stocks. The dominant age class for males was 1.3 and the dominant age class for females was 1.4. Lengths of males ranged from 430 – 1,020 mm and lengths of females ranged from 600 - 987 mm.

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